

CLASSIFICATION RESTRICTED
 SECURITY INFORMATION
 CENTRAL INTELLIGENCE AGENCY
 INFORMATION FROM
 FOREIGN DOCUMENTS OR RADIO BROADCASTS

REPORT

CD NO.

STAT

COUNTRY USSR
 SUBJECT Scientific - Miscellaneous, standards, calibration
 HOW PUBLISHED Booklet; monthly periodical
 WHERE PUBLISHED Moscow
 DATE PUBLISHED 1951, 1946
 LANGUAGE Russian

DATE OF INFORMATION 1950

DATE DIST. 23 May 1952

NO. OF PAGES 7

SUPPLEMENT TO REPORT NO.

THIS DOCUMENT CONTAINS INFORMATION AFFECTING THE NATIONAL DEFENSE OF THE UNITED STATES WITHIN THE MEANING OF ESPIONAGE ACT 50 U. S. C. 31 AND 32, AS AMENDED. ITS TRANSMISSION OR THE REVELATION OF ITS CONTENTS IN ANY MANNER TO AN UNAUTHORIZED PERSON IS PROHIBITED BY LAW. REPRODUCTION OF THIS FORM IS PROHIBITED

THIS IS UNEVALUATED INFORMATION

SOURCE Booklet and periodical as indicated.

THE SOVIET STATE SERVICE OF WEIGHTS AND MEASURES

B. M. Leonov
 K. N. Katsman

[Numbers in parentheses refer to appended sources.]

Up until 1938, the entire state service of weights and measures in the USSR was administered by several institutions (the Main Bureau of Weights and Measures, the Central Administration of Weights and Measures, the Main Administration of Weights and Measures) which were subordinated to different offices, e.g., the Higher Council on the Economy, the All-Union Committee on Standardization, the People's Commissariat of Internal Affairs, etc. However, the unexpected rate of development of the country, the intensive work on industrialization, and the need for furnishing the economy with the most up-to-date measuring equipment steadily increased the importance and role of measuring techniques.

The requirements for measurement accuracy have increased continuously and the progress of science and industry has made necessary the development of measurements and, in some cases, the creation of new fields of measurements. A real need arose for the development of work on metrology and for the organization and coordination of various scientific research work on measuring techniques.

The young Soviet instrument-building industry was scattered among several offices; problems of organizing the repair of measuring instruments went unsolved. All this required the organization of an institution capable of either solving these problems directly or bringing some of them up for consideration by the government of the USSR.

In this situation, the government adopted the decree forming the Committee on Measures and Measuring Instruments (decree of the Council of People's Commissars No 974 of 5 September 1938, Putting the Measuring Economy of the USSR in Order). Thus, for the first time in the history of the state service

- 1 -

STATE		CLASSIFICATION		DISTRIBUTION									
STATE	X	NAVY	X	NSRB									
ARMY	X	AIR	X	FBI									

RESTRICTED

STAT

of weights and measures, the committee which heads this service was formed as a completely independent central organization subordinated directly to the Council of Ministers and having the right to bring to the attention of the government various proposals regarding the problems under its competence.

This decree assigned the following specific tasks to the committee: the approval of rules and instructions, compulsory for all enterprises, institutions, and organizations, on the calibration and use of measures and measuring instruments; approval of types of measuring instruments to be produced or imported; submitting to the government for approval a list of units of measurements for the USSR and producing, maintaining, and storing the state standards for these units; submitting to the government for approval a list of measures and instruments requiring compulsory state calibration and establishment of times within which all enterprises, institutions, and organizations must submit their measures and measuring instruments for state calibration.

In addition to other functions involved in the state calibration and inspection of measures and measuring instruments directly related to its activity, the committee was assigned the following functions to permit it to influence directly all problems related to the measuring economy and measuring techniques in the country: registration of all enterprises engaged in the production and repair of measures and measuring instruments, inspection of production and repair methods, and submitting to the government conclusions on plans for the production and repair of measures and measuring instruments; methodological supervision of the training of metrological personnel in other organizations; and checking on the activity of office organizations for the inspection of measures and measuring instruments.

The decree also stated that the committee should maintain liaison with international metrological organizations on problems of metrology.

In order to perform the functions assigned it, the Committee on Measures and Measuring Instruments has the following scientific, calibration, production, and educational institutions subordinate to it:

1. The VNIM (All-Union Scientific Research Institute of Metrology) imeni D. I. Mendeleyev with an affiliate in Sverdlovsk
 2. Several state institutes of measures and measuring instruments
 3. The Central Scientific-Research Bureau of the Unified Time Service
 - .. Republic, oblast, and kray administrations of measures and measuring instruments with their permanent department [the so-called calibration institutions]
 5. Experimental plants and shops
 6. The Permanent All-Union Exhibition of Calibration and Measuring Instruments in Moscow
 7. A technical school of measurements
- [An organizational chart is appended.]

The committee is made up of a chairman (A. P. Kuznetsov was chairman in 1946), his deputies, and members of the committee, who are personally confirmed by the Council of Ministers.

- 2 -

RESTRICTED

RESTRICTED

STAT

Decisions of the committee are published as orders of the chairman of the committee. The main divisions of the committee perform the functions listed below.

The Technical Division of the committee is concerned with the following problems: development and submission for approval of drafts of rules and instructions on the calibration and use of measures and measuring instruments; examination and submission for approval of plans for research work for the institutions, and checking on their fulfillment; consideration of various technical problems in the field of metrology and measuring techniques; processing of material required to maintain liaison with international organizations on weights and measures; development of drafts of the lists of units of measurement used in the USSR, lists of measures and measuring instruments which must undergo state calibration, and establishment of the times when this calibration is to be done.

The Instrument-Building Division of the committee examines various problems connected with the development of the production of measures and measuring instruments and with the introduction of the latest measuring techniques. The division supervises work on state tests of instruments produced by Soviet industry and also supervises industrial enterprises of the committee.

The Division on Checking Measurements of Liquid Fuels and Lubricants supervises work on checking these measurements in all offices and directs the development of techniques for improving the technical equipment and methods for these measurements.

The committee includes a Scientific and Technical Council, which is a consulting body; the council includes representatives of scientific research institutes and calibration institutions of the committee and also permanent representatives of the Academy of Sciences and various ministries and offices. The staff of the council is approved by the chairman of the committee. The council considers the following problems and presents recommendations to the committee on them.

1. Problems related to the scientific research subject plan of institutes of the committee and other offices in the field of measuring techniques, calibration, and instrument building
2. Establishment of units and systems of units of measurement and also physicochemical constants
3. Development of new methods of measurement
4. Establishment, reproduction, and storage of state standards of the units of measurement

The council also considers problems involved in the establishment of scientific and technical principals of calibration, in the development and content of technical documentation, and in the training of personnel in the field of measuring techniques, etc.

As was indicated previously, the scientific research institutions of the committee include the VNIIM imeni D. I. Mendeleev with its affiliate, the Central Scientific Research Bureau of the Unified Time Service, and several state institutes of measures and measuring instruments.

The VNIIM is the leading metrological institution in the country and is also the oldest scientific metrological institution in the world. It was formed from the Main Bureau of Weights and Measures which was founded in 1893. Subsequently, similar metrological institutions were formed in England in 1899 and in the US in 1901.

- 3 -

RESTRICTED

RESTRICTED

STAT

The VNIIM is the main scientific research institute of the committee and as such is the scientific and methodics center for other scientific research institutions of the committee and the repository for the state standards of the USSR; all the basic work on the creation of standards is done in this institute. The VNIIM has many laboratories to enable it to conduct scientific work in the most diverse fields of accurate measurements. Its Metrological Division works on the most important problems of practical and theoretical metrology. The Design Bureau affiliated with the VNIIM develops plans for the very complex physical equipment required for the research work of the VNIIM and other scientific institutions of the committee. This bureau also develops plans for test equipment and sample instruments for the calibration institutions of the committee.

The VNIIM also includes the Metrological Museum imeni D. I. Mendeleyev, which serves as a repository for material pertaining to the memory of the great scientist and also for various material and instruments reflecting the development of weights and measures and metrological and calibration work in the USSR.

The Scientific Council, which investigates basic problems of the organization and content of the scientific research activity of the institute and also examines doctor's and candidate's dissertations, comes under the director of the VNIIM. In addition to the administrative heads of the institute, the Scientific Council includes the chiefs of scientific research divisions, laboratory chiefs, and other scientists active in the field of metrology and measuring techniques. The members of the Scientific Council are approved by the committee and also by the Ministry of Higher Education of the USSR.

The affiliate of the VNIIM located in Sverdlovsk, works under the direct supervision of the latter and conducts scientific research metrological work; it is responsible for the solution of special problems of the Urals (the establishment of standard specimens of metals and various materials and also measurements in physical chemistry and spectroscopy).

The Central Scientific Research Bureau of the Unified Time Service was formed in 1947 by decree of the Council of Ministers USSR to conduct and coordinate scientific research work in the field of time and frequency measurements.(1)

The state institutes of measures and measuring instruments are scientific research institutions and perform research work. The MG/M/P (Moscow State Institute of Measures and Measuring Instruments) is the main establishment for state tests of instruments and also conducts research on automatic methods of measurement and checking, on the measurement of nonelectrical quantities by electrical methods, etc. The KhG/M/P (Khar'kov State Institute of Measures and Measuring Instruments) is concerned mainly with the development of new methods of high-frequency measurements, electrical measurements of quantities in transient processes, etc. The Novosibirsk Institute is responsible for improving methods of calibration and for the solution of problems arising in connection with the development of industry in Siberia.(2)

Each of the state institutes of measures and measuring instruments regularly and systematically transfers the value of the units of measurements from the committee, industrial enterprises, and other organizations.

The state institutes of measures and measuring instruments are responsible for checking the condition of the standard measures and measuring instruments in the calibration institutions. For this purpose, the VNIIM, the Leningrad Administration of Measures and Measuring Instruments, and each state institute of measures and measuring instruments has a group of calibration institutions associated with it for which they perform the following functions: checking on the condition, storage, and use of standard measures and measuring instruments; regular comparison of all the main measures and instruments; checking

- 4 -

RESTRICTED

RESTRICTED

STAT

the technical correctness of all calibration work done by the corresponding administrations; training and improving the qualifications of personnel in the corresponding administrations.

For scientific research work, the state institutes of measures and measuring instruments have a division of standards and scientific research laboratories organized with consideration for the specialization of the institute.

Each institute also includes an Administration of State Supervision to conduct calibration work. The latter includes divisions of inspection and checking, checking and calibration points, and inter-rayon and time departments. The Administration of State Supervision has the following calibration laboratories: electrical and magnetic measurements, mechanical measurements, steam-engineering measurements, and linear and angular measurements.

Each institute also has a technical division, repair-adjustment shops, and various administrative and service divisions.

Scientific councils in each of the institutes are subordinate to the director. The functions of these scientific councils are the same as those of the VNIIM's scientific council, except that they do not have the right to examine dissertations.

All calibration and inspection work in the country is conducted by the calibration organizations of the committee, i. e., the administrations of measures and measuring instruments which are headed by representatives of the committee.

By decree of the government, there are representatives of the committee in union and autonomous republics, in krays, and in oblasts, and these representatives are placed respectively in the councils of ministers of the union and autonomous republics and in the oblast and kray executive committees of the councils of workers' deputies.

The administrations of measures and measuring instruments located in the Ukrainian SSR, the Belorussian SSR, the Kazakh SSR, and the Uzbek SSR are united by the corresponding republic administrations, which supervise the activity of all calibration institutions located in the particular republic.

The basic task of the local administrations of the committee is to provide in the area for which they are responsible uniformity, accuracy, and correct use of measures and measuring instruments in all branches of the economy. To perform this task, the administrations of measures and measuring instruments carry out the following functions

1. State calibration and stamping of all measuring instruments, whether produced, repaired, or in use, according to a list approved by the committee
2. Inspection of all measures and measuring instruments in use
3. Checking on the activity of office organizations for the inspection of measures and measuring instruments
4. Registration of all enterprises producing, repairing, or inspecting measures and measuring instruments
5. Giving consultation on various measures and measuring instruments(1)

- 5 -

RESTRICTED

RESTRICTED



STAT

SOURCES

1. Moscow, Gosudarstvennaya sluzhba mer i ... sov v SSSR, Mashgiz, 1951, (LC No QC 100, L4).
2. Moscow, Elektrichestvo, No 11, 1946, p 85.

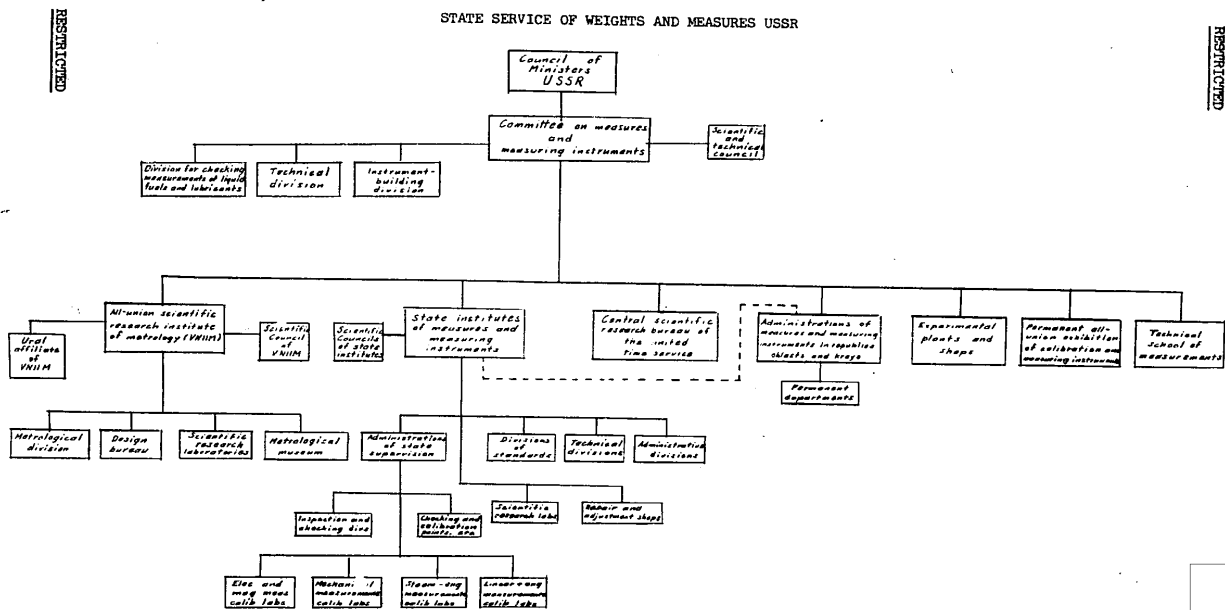
[The following chart was drawn  on the basis of the information in the above article.]



STAT

- 6 -

RESTRICTED



NOTE: Dotted line indicates operational guidance rather than direct supervision.

- END -

- 7 -